

Appln No. 09/729,443

Amdt date March 18, 2005

Reply to Office action of December 22, 2004

Amendments to the Drawings:

The attached sheets of drawings include changes to Figs. 1 and 2. These sheets, which include Figs. 1 and 2, replace the original sheets including these figures.

Attachment: Replacement Sheets

Annotated Sheets Showing Changes

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REMARKS/ARGUMENTS

Claims 1 - 3, 5 - 16, 18 - 22, 24 - 28, 30 - 42, 44 - 48, 50 - 54, and 56 - 61 are now pending. Claims 4, 17, 23, 29, 43, 49, and 55 are cancelled. Claims 1, 12, 15, 18, 20, 21, 24, 26, 27, 30, 32, 33, 45, 47, 52, 53, and 60 are amended.

Figures 1 and 2 are objected to requiring these drawings to include a legend identifying them as "Prior Art." Figures 1 and 2 are amended and appropriately corrected drawings are enclosed. Accordingly, it is respectfully requested that the above objection be withdrawn.

The specification is amended for informalities according to the Examiner's recommendations.

The Office Action objects to Claims 4, 12, and 45 because of informalities. Claim 4 is cancelled. Claims 12 and 45 are amended according to the Examiner's recommendations and, as amended, they overcome the informalities recited. Therefore, it is respectfully requested that the above objection be withdrawn.

Claims 7, 9, 13, 14, 38, 39, and 46 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement because the claims contain subject matter not described in the specification.

The Office Action states that the disclosure does not teach the use of a third signal between the first and the second signal. Claim 7 does not call for a "third signal," rather, it calls for a "reference signal" which is disclosed in the specification, for example, in the paragraph starting on line 24 of page 1. Claims 9, 13, 14, 38, 39, and 46 do call for a "third signal" which is disclosed in the paragraph starting on

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line 31 of page 4 stating: "Any number of trellis encoders separated by interleavers may be used, but two are shown for the sake of simplicity." Disclosing more than two encoders leads to disclosing more than two signals. Therefore, a third signal is also supported by the specification. Accordingly, it is respectfully requested that the above rejections are withdrawn.

Claims 1 - 8, 10 - 11, 15 - 19, 21 - 25, 27 - 31, 33 - 36, 40 - 45, 47 - 51, and 53 - 59 are rejected under 35 U.S.C. §102(a) as being anticipated by Langlais et al. which is an IEEE publication. Claims 12, 20, 26, 32, 37, 52, and 59 - 61 are rejected under 35 U.S.C. §103(a) as being unpatentable over Langlais in view of Robertson et al. another IEEE publication. Applicants respectfully submit that all of the claims currently pending in this application are patentably distinguishable over the cited reference, and reconsideration and allowance of this application are respectfully requested.

Claim 1 is amended to include the limitations of claim 4. Amended claim 1 recites, among other limitations, "adjusting the multiplied first signal based on the multiplied first and second signals, wherein the adjustment of the multiplied first signal comprises Viterbi decoding." (Underlining added). Claim 4 was rejected because, according to the Office Action, Langlais teaches this limitation in figure 2 and in the last line of the first paragraph of section II.A. Applicants respectfully differ on this point. The cited passage of Langlais states: "Figure 1 shows the classical diagram of a phase recovery system ... followed by the turbodecoder. The decoding process is based on the serial concatenation of decoder DEC1 and DEC2, both using

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Soft Output Viterbi Algorithm." It is the decoding system of Langlais that is a Viterbi decoder. This decoder, in Langlais, is located after the slicer and the phase detector and serves a different purpose. There is no mention in Langlais that the phase recovery or phase detection system also includes a Viterbi decoder. Therefore, the Viterbi decoder of Langlais is distinguished from the claimed Viterbi decoder, because it is not used for "adjusting the multiplied first signal based on the multiplied first and second signals."

As such, Applicants submit that claim 1, as amended, is not anticipated by Langlais under 35 U.S.C. §102(a) and respectfully request the withdrawal of the rejection.

Claims 2, 3, 5 - 8, 10, and 11 are dependent from claim 1 and therefore include all the limitations of claim 1 and additional limitations therein. Accordingly, these claims are also allowable over Langlais, as being dependent from an allowable independent claim and for the additional limitations they include therein. The withdrawal of the rejections is respectfully requested.

Independent claims 15, 21, 27, 33, 47, and 53 are distinguished from Langlais for reasons similar to those pertaining to claim 1, as discussed above, and are allowable over Langlais. The withdrawal of the rejections is respectfully requested.

For example, amended claim 21 includes, among other limitations, "a slicer having an input coupled to the multiplier, and an output, wherein the slicer comprises a Viterbi decoder." (Underlining added). This slicer is

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distinguished from the decoder of Langlais because Langlais' decoder is not "coupled to the multiplier." As explained above, the decoder of Langlais begins where the device of claim 21 ends.

Claims 16, 18, and 19 depend from claim 15. Claims 22, 24, and 25 depend from claim 21. Claims 28, 30, and 31 depend from claim 27. Claims 34 - 36, 40 - 42, 44, and 45 depend from claim 33. Claims 48, 50, and 51 depend from claim 47. Claims 54, and 56 - 59 depend from claim 53. These dependent claims include the limitations of the claims from which they depend and additional limitations therein. Accordingly, these dependent claims are also allowable over Langlais, as being dependent from allowable independent claims, and for the additional limitations they include therein.

Regarding the 35 U.S.C. §103(a) rejections over Langlais and Robertson, without admitting the validity of combining the references, Applicants submit that, as discussed above, Langlais does not teach or suggest the limitations of the independent claims as amended. Robertson does not cure this deficiency. As such, Applicants submit that the invention as claimed in amended claims 12, 20, 26, 32, 52, and 60 and also claims 37, 59, and 61 is not taught or suggested by Langlais and Robertson, alone or in combination. These claims are allowable over the cited references, and withdrawal of the rejection is respectfully requested.

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In view of the foregoing amendments and remarks, it is respectfully submitted that this application is now in condition for allowance, and accordingly, reconsideration and allowance of this application is respectfully requested.

Respectfully submitted,

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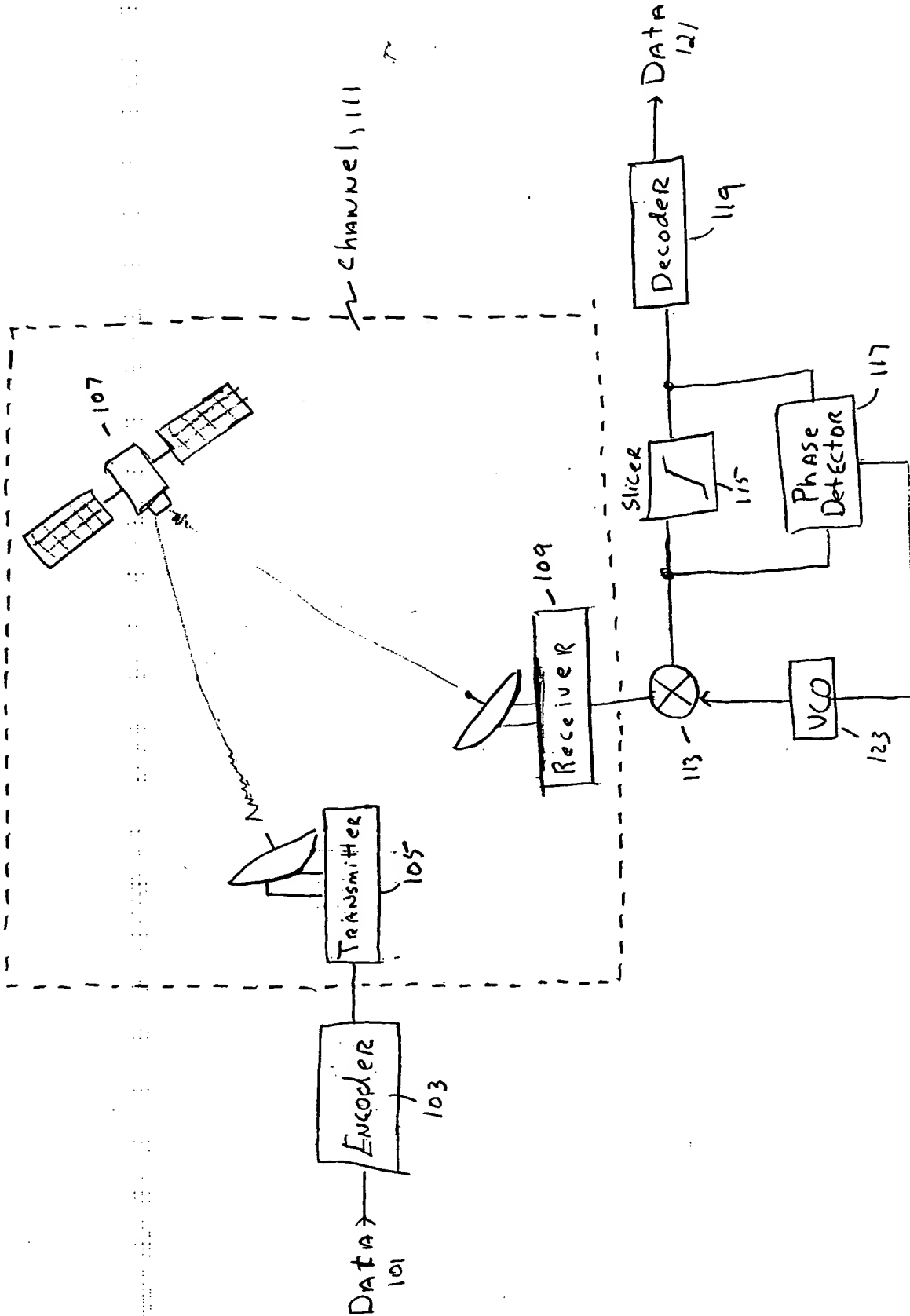


Figure #1
Prior Art

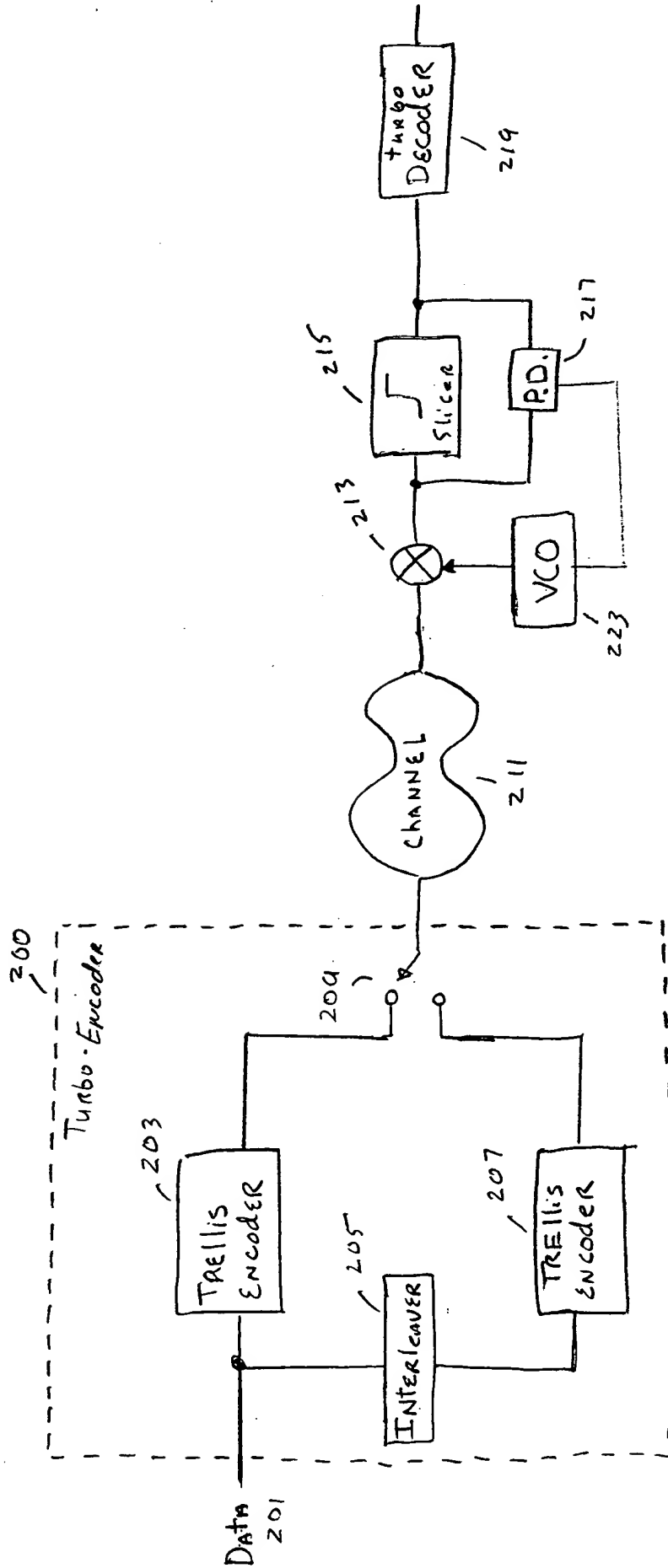


Figure #2
Prior Art